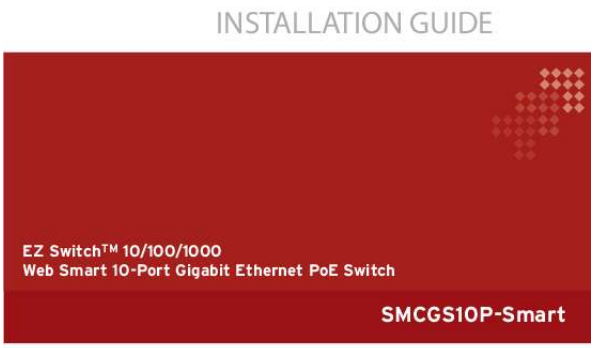

Manual abstract:

O.C. @@(SMC) is believed to be accurate and reliable. @@@@SMC reserves the right to change specifications at any time without notice. Copyright © 2011 by SMC Networks No. 1, Creation Road III, Hsinchu Science Park, 30077, Taiwan, R.O.C. All rights reserved Trademarks: SMC is a registered trademark; and EZ Switch, TigerStack and TigerSwitch are trademarks of SMC Networks, Inc. Other product and company names are trademarks or registered trademarks of their respective holders.

WARRANTY AND PRODUCT REGISTRATION To register SMC products and to review the detailed warranty statement, please refer to the Support Section of the SMC Website at http://www.smc.com. 4 COMPLIANCES AND SAFETY STATEMENTS FCC - CLASS A This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

@@@@This device complies with part 15 of the FCC Rules. @@@@For the evaluation of the compliance with these Directives, the following standards were applied: RFI Emission: Limit according to EN 55022:2007, Class A/B Limit for harmonic current emission according to EN 61000-3-2:2006, Class A Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3:2005 Product family standard according to EN 55024:2001 + A2:2003 Electrostatic Discharge according to IEC 61000-4-2:2008 Radio-frequency electromagnetic field according to IEC 61000-43:2007 Electrical fast transient/burst according to IEC 61000-4-4:2004 Surge immunity test according to IEC 61000-4-5:2005 Immunity to conducted disturbances, Induced by radio-frequency fields: IEC 61000-4-6:2008 Power frequency magnetic field immunity test according to IEC 61000-4-8:2001 Voltage dips, short interruptions and voltage variations immunity test according to IEC 61000-4-11:2004 EN60950-1:2006+A11:2009 Immunity: LVD: 6 COMPLIANCES AND SAFETY STATEMENTS SAFETY COMPLIANCE Warning: Fiber Optic Port Safety CLASS I LASER DEVICE When using a fiber optic port, never look at the transmit laser while it is powered on. Also, never look directly at the fiber TX port and fiber cable ends when they are powered on. Avertissment: Ports pour fibres optiques - sécurité sur le plan optique DISPOSITIF LASER DE CLASSE I Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port TX (Transmission) à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.

Warnhinweis: Faseroptikanschlüsse - Optische Sicherheit LASERGERÄT DER KLASSE I Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf den Faser-TX-Anschluß und auf die Faserkabelenden schauen, während diese eingeschaltet sind. PSE ALARM 7 COMPLIANCES AND SAFETY STATEMENTS POWER CORD SAFETY Please read the following safety information carefully before installing the switch: WARNING: Installation and removal of the unit must be carried out by qualified personnel only. The unit must be connected to an earthed (grounded) outlet to comply with international safety standards. Do not connect the unit to an A.C. outlet (power supply) without an earth (ground) connection. The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN 60320/IEC 320 appliance inlet. The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.

This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions. France and Peru only This unit cannot be powered from IT supplies. If your supplies are of IT type, this unit must be powered by 230 V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground). Impédance à la terre IMPORTANT! Before making connections, make sure you have the correct cord set. Check it (read the label on the cable) against the following: 8 COMPLIANCES AND SAFETY STATEMENTS Power Cord Set U.S.A. and Canada The cord set must be UL-approved and CSA certified. The minimum specifications for the flexible cord are: - No.

18 AWG - not longer than 2 meters, or 16 AWG. - Type SV or SJ - 3-conductor The cord set must have a rated current capacity of at least 10 A The attachment plug must be an earth-grounding type with NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration. Denmark Switzerland U.K. The supply plug must comply with Section 107-2-D1, Standard DK2-1a or DK2-5a.

The supply plug must comply with SEV/ASE 1011. The supply plug must comply with BS1363 (3-pin 13 A) and be fitted with a 5 A fuse which complies with BS1362. The mains cord must be <HAR> or <BASEC> marked and be of type HO3VVF3GO.75 (minimum). Europe The supply plug must comply with CEE7/7 ("SCHUKO").

The mains cord must be <HAR> or <BASEC> marked and be of type HO3VVF3GO.75 (minimum). IEC-320 receptacle. Veuillez lire à fond l'information de la sécurité suivante avant d'installer le Switch: AVERTISSEMENT: L'installation et la dépose de ce groupe doivent être confiés à un personnel qualifié. Ne branchez pas votre appareil sur une prise secteur (alimentation électrique) lorsqu'il n'y a pas de connexion de mise à la terre (mise à la masse). Vous devez raccorder ce groupe à une sortie mise à la terre (mise à la masse) afin de respecter les normes internationales de sécurité. Le coupleur d'appareil (le connecteur du groupe et non pas la prise murale) doit respecter une configuration qui permet un branchement sur une entrée d'appareil EN 60320/IEC 320. 9- COMPLIANCES AND SAFETY STATEMENTS La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise. L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme IEC 60950.

Ces conditions ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions. France et Pérou uniquement: Ce groupe ne peut pas être alimenté par un dispositif à impédance à la terre.

Si vos alimentations sont du type impédance à la terre, ce groupe doit être alimenté par une tension de 230 V (2 P+T) par le biais d'un transformateur d'isolement à rapport 1:1, avec un point secondaire de connexion portant l'appellation Neutre et avec raccordement direct à la terre (masse). Cordon électrique - Il doit être agréé dans le pays d'utilisation Etats-Unis et Canada: Le cordon doit avoir reçu l'homologation des UL et un certificat de la CSA. Les spécifications minimales pour un cable flexible sont AWG No. 18, ouAWG No. 16 pour un cable de longueur inférieure à 2 mètres. - type SV ou SJ - 3 conducteurs Le cordon doit être en mesure d'acheminer un courant nominal d'au moins 10 A. La prise femelle de branchement doit être du type à mise à la terre (mise à la masse) et respecter la configuration NEMA 5-15P (15 A, 125 V) ou NEMA 6-15P (15 A, 250 V). Danemark: Suisse: Europe La prise mâle d'alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a.

La prise mâle d'alimentation doit respecter la norme SEV/ASE 1011. La prise secteur doit être conforme aux normes CEE 7/7 ("SCHUKO") LE cordon secteur doit porter la mention <HAR> ou <BASEC> et doit être de type HO3VVF3GO.75 (minimum). 10 COMPLIANCES AND SAFETY STATEMENTS Bitte unbedingt vor dem Einbauen des Switches die folgenden Sicherheitsanweisungen durchlesen: WARNUNG: Die Installation und der Ausbau des Geräts darf nur durch Fachpersonal erfolgen. Das Gerät sollte nicht an eine ungeerdete Wechselstromsteckdose angeschlossen werden.

Das Gerät muß an eine geerdete Steckdose angeschlossen werden, welche die internationalen Sicherheitsnormen erfüllt. Der Gerätestecker (der Anschluß an das Gerät, nicht der Wandsteckdosenstecker) muß einen gemäß EN 60320/IEC 320 konfigurierten Geräteeingang haben. Die Netzsteckdose muß in der Nähe des Geräts und leicht zugänglich sein. Die Stromversorgung des Geräts kann nur durch Herausziehen des Gerätenetzkabels aus der Netzsteckdose unterbrochen werden. Der Betrieb dieses Geräts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gemäß IEC 60950.

Diese Bedingungen sind nur gegeben, wenn auch die an das Gerät angeschlossenen Geräte unter SELV-Bedingungen betrieben werden. Stromkabel. Dies muss von dem Land, in dem es benutzt wird geprüft werden: Schweiz Europe Dieser Stromstecker muß die SEV/ASE 1011Bestimmungen einhalten. Das Netzkabel muß vom Typ HO3VVF3GO.75 (Mindestanforderung) sein und die Aufschrift <HAR> oder <BASEC> tragen. Der Netzstecker muß die Norm CEE 7/7 erfüllen ("SCHUKO"). 11 COMPLIANCES AND SAFETY STATEMENTS WARNINGS AND CAUTIONARY MESSAGES WARNING: This product does not contain any serviceable user parts. WARNING: Installation and removal of the unit must be carried out by qualified personnel only. WARNING: When connecting this device to a power outlet, connect the field ground lead on the tri-pole power plug to a valid earth ground line to prevent electrical hazards. WARNING: This switch uses lasers to transmit signals over fiber optic cable.

The lasers are compliant with the requirements of a Class 1 Laser Product and are inherently eye safe in normal operation. However, you should never look directly at a transmit port when it is powered on. CAUTION: Wear an anti-static wrist strap or take other suitable measures to prevent electrostatic discharge when handling this equipment. CAUTION: Do not plug a phone jack connector in the RJ-45 port. This may damage this device. CAUTION: Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards. ENVIRONMENTrnet Cable Length Maximum 1000BASE-LH Gigabit Ethernet Cable Length Maximum 100BASE-FX Cable Length Maximum Fast Ethernet Cable Lengths Maximum Ethernet Cable Length LED Indicators 25 26 26 49 49 50 50 50 50 51 52 19 TABLES 20 FIGURES Figure 1: Figure 2: Figure 3: Figure 4: Figure 5: Figure 6: Figure 7: Figure 8: Figure 9: Figure 10: Figure 11: Figure 12: Figure 13: Figure 14: Figure 15: Figure 16: Figure 17: Figure 18: Figure 19: Figure 20: Figure 21: Front Panel Rear Panel Port and System LEDs Power Supply Inlet Grounding Point Reset Button Collapansmission mode (half or full duplex), and data rate (10, 100, or 1000 Mbps) can be selected automatically. If a device connected to one of these ports does not support auto-negotiation, the communication mode of that port can be configured manually. Each port also supports IEEE 802.3x auto-negotiation of flow control, so the switch can automatically prevent port buffers from becoming saturated.

SFP TRANSCIEVER SLOTS The Small Form Factor Pluggable (SFP) transceiver slots are independent ports. The following table shows a list of transceiver types that have been tested with the switch. For an updated list of vendors supplying these transceivers, contact your local dealer. For information on the recommended standards for fiber optic cabling, see "Fiber Optic SFP Devices" on page 47. 24 Overview CHAPTER 1 | Introduction Table 1: Supported SFP Transceivers Media Standard Fiber Diameter (microns) Wavelength (nm) Maximum Distance 1000BASE-SX 50/125 62.*

*5/125 1000BASE-LX 50/125 62.5/125 9/125 1000BASE-LH 9/125 850 850 1300 1300 1300 1310 1550 100BASE-FX 50/125 or 62.5/125 9/125 1000BASE-T * Maximum distance may vary for different SFP vendors. 1300 1300 700 m 400 m 550 m 550 m 10 km 35 km 80 km 2 km 20 km 100 m PORT AND SYSTEM LEDS This switch includes a display panel for key system and port indications that simplify installation and network troubleshooting. The LEDs, which are located on the front panel for easy viewing, are shown below and described in the following tables.*

Figure 3: Port and System LEDs System LEDs Port LEDs SMCGS10P-Smart / 25 CHAPTER 1 | Introduction Overview Table 2: Port Status LEDs LED Condition Status RJ-45 Gigabit Ethernet Ports (Ports 1-8) Link/Activity/Speed On/Flashing Port has established a valid 10/100 Mbps network Amber connection. Flashing indicates activity. On/Flashing Port has established a valid 1000 Mbps network Green connection. Flashing indicates activity. Off There is no valid link on the port. SFP Gigabit Ethernet Ports (Ports 9-10) (Link/Activity) On/Flashing Port has established a valid 10 or 100 Mbps network Amber connection. Flashing indicates activity. On/Flashing Port has established a valid 1000 Mbps network Green connection. Flashing indicates activity. Off There is no valid link on the port.

Table 3: System Status LEDs LED Power Condition On Green Off Diag On Green Flashing Green On Amber / Flashing Amber Off PoE On Amber Off Status The unit's internal power supply is operating normally.

The unit has no power connected. The system diagnostic test has completed successfully. The system boot up is in progress. The system diagnostic test is in progress. The system diagnostic has completed. Powered device connected. @@@@@@@@@@@@@@@@@@@@However, a switch turns the hop count back to zero. @@@@Some typical applications are described below. COLLAPSED BACKBONE The Gigabit Ethernet Switch is an excellent choice for mixed Ethernet, Fast Ethernet, and Gigabit Ethernet installations where significant growth is expected 30 CHAPTER 2 | Network Planning Application Examples in the near future.

In a basic stand-alone configuration, it can provide direct fullduplex connections for up to 10 workstations or servers. You can easily build on this basic configuration, adding direct full-duplex connections to workstations or servers. @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@This provides a more secure and cleaner network environment. @@@@@@@@@@@@@@@@@@@@100BASE-FX: 20 km (12 miles) for single-mode fiber. However, power budget constraints must also be considered when calculating the maximum cable length for your specific environment.

35 3 INSTALLING THE SWITCH This chapter describes how to install the switch. SELECTING A SITE The site should: be at the center of all the devices you want to link and near a power outlet. be able to maintain its temperature within 0 to 50 °C (32 to 122 °F) and its humidity within 10% to 90%, non-condensing provide adequate space (approximately two inches) on all sides for proper air flow be accessible for installing, cabling and maintaining the devices allow the status LEDs to be clearly visible Make sure twisted-pair cable is always routed away from power lines, fluorescent lighting fixtures and other sources of electrical interference, such as radios and transmitters. Make sure that the unit is connected to a separate grounded power outlet that provides 100 to 240 VAC, 50 to 60 Hz, is within 2 m (6.6 feet) of each device and is powered from an independent circuit breaker.

As with any equipment, using a filter or surge suppressor is recommended. 36 CHAPTER 3 | Installing the Switch Ethernet Cabling ETHERNET CABLING To ensure proper operation when installing the switch into a network, make sure that the current cables are suitable for 10BASE-T, 100BASE-TX, or 1000BASE-T operation. Check the following criteria against the current installation of your network: Cable type: Unshielded twisted pair (UTP) or shielded twisted pair (STP) cables with RJ-45 connectors; Category 3 or better for 10BASE-T, Category 5 or better for 100BASE-TX, and Category 5, 5e, or 6 for 1000BASE-T. Protection from radio frequency interference emissions Electrical surge suppression Separation of electrical wires (switch related or other) and electromagnetic fields from data based network wiring Safe connections with no damaged cables, connectors or shields Figure 12: RJ-45 Connections RJ-45 Connector 37 CHAPTER 3 | Installing the Switch Equipment Checklist EQUIPMENT CHECKLIST After unpacking this switch, check the contents to be sure you have received all the components. Then, before beginning the installation, be sure you have all other necessary installation equipment. Web Smart 10-Port GE PoE Switch Four adhesive foot pads Grounding screw Bracket Mounting Kit containing two brackets and eight screws for attaching the brackets to the switch Power Cord This Installation Guide Documentation CD (Includes Management Guide) OPTIONAL RACK-MOUNTING EQUIPMENT If you plan to rack-mount the switch, be sure to have the following equipment available: Four mounting screws for each device you plan to install in a rack--these are not included A screwdriver (Phillips or flathead, depending on the type of screws used) 38 CHAPTER 3 | Installing the Switch Mounting MOUNTING The switch can be mounted in a standard 19-inch equipment rack or on a desktop or shelf. Mounting instructions for each type of site follow. RACK-MOUNTING Before rack mounting the switch, pay particular attention to the following factors: Temperature: Since the temperature within a rack assembly may be higher than the ambient room temperature, check that the rack-environment temperature is within the specified operating temperature range. ("Physical Characteristics" on page 54.) Mechanical Loading: Do not place any equipment on top of the rackmounted unit.

Circuit Overloading: Be sure that the supply circuit to the rack assembly is not overloaded. Grounding: Rack-mounted equipment should be properly grounded. Particular attention should be given to supply connections other than direct connections to the mains. Figure 13: Grounding 1. Attach an insulated grounding wire, with a metal screw, to the marked grounding point. Terminate the wire in an 2. earthed grounding point. 39 CHAPTER 3 | Installing the Switch Mounting To rack-mount devices: 1. Attach the brackets to the device using the screws provided in the Bracket Mounting Kit. Figure 14: Attaching the Brackets 2.

Mount the device in the rack, using four rack-mounting screws (not provided). Be sure to secure the lower rack-mounting screws first to prevent the brackets being bent by the weight of the switch. Figure 15: Installing the Switch in a Rack 3. If installing a single switch only, turn to "Connecting to a Power Source" on page 42. 4.

If installing multiple switches, mount them in the rack, one below the other. 40 CHAPTER 3 | Installing the Switch Mounting DESKTOP OR SHELF MOUNTING 1. Attach the four adhesive feet to the bottom of the first switch. Figure 16: Attaching the Adhesive Feet 2. @@@@@@@@@@@@@@@@@@@@To install an SFP transceiver, do the following: 1.

@@@@Note that SFP transceivers are keyed so they can only be installed in one orientation. 3. Slide the SFP transceiver into the slot until it clicks into place. NOTE: SFP transceivers are hot-swappable. The switch does not need to be powered off before installing or removing the transceiver. However, always first disconnect the network cable before removing the transceiver. NOTE: SFP transceivers are not provided in the switch package. 43 4 MAKING NETWORK CONNECTIONS CONNECTING NETWORK DEVICES This switch is designed to be connected to 10, 100, or 1000 Mbps network cards in PCs and servers, as well as to other switches and hubs. It may also be connected to remote devices using optional 1000BASE-SX, 1000BASE-LX, 1000BASE-LH, or 100BASE-FX SFP transceivers. TWISTED-PAIR DEVICES Each device requires an unshielded twisted-pair (UTP) cable with RJ-45 connectors at both ends.

Use Category 5, 5e or 6 cable for 1000BASE-T connections, Category 5 or better for 100BASE-TX connections, and Category 3 or better for 10BASE-T connections. POWER-OVER-ETHERNET CONNECTIONS The switch automatically detects a PoE-compliant device by its authenticated PoE signature and senses its required load before turning on DC power to the port.

This detection mechanism prevents damage to other network equipment that is not PoE compliant. NOTE: Power-over-Ethernet connections work with all existing Category 3, 4, 5, 5e, or 6 network cabling, including patch cables and patchpanels, outlets, and other connecting hardware, without requiring modification. The switch delivers power to a device using the wire pairs in UTP or STP cable (RJ-45 pins 1, 2, 3, and 6). The switch can provide up to 30 W of power continuously on each of the eight RJ-45 ports. If a device tries to draw more than 30 W from a port, an overload condition occurs and the port disables the power. 44 CHAPTER 4 | Making Network Connections Twisted-Pair Devices The switch controls the power and data on a port independently. Power can be requested from a device that already has a data link to the switch. Also, the switch can supply power to a device even if the port's data connection has been disabled.

The power on a port is continuously monitored by the switch and it will be turned off as soon as a device connection is removed. CABLING GUIDELINES The RJ-45 ports on the switch support automatic MDI/MDI-X pinout configuration, so you can use standard straight-through twisted-pair cables to connect to any other network device (PCs, servers, switches, routers, or hubs). See Appendix B for further information on cabling. CAUTION: Do not plug a phone jack connector into an RJ-45 port. This will damage the switch.

Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards. Do not plug a phone jack connector into an RJ-45 port. This will damage the switch. Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards. CONNECTING TO PCS, SERVERS, HUBS AND SWITCHES 1.

Attach one end of a twisted-pair cable segment to the device's RJ-45 connector. Figure 19: Making Twisted-Pair Connections 45 CHAPTER 4 | Making Network Connections Twisted-Pair Devices 2. If the device is a network card and the switch is in the wiring closet, attach the other end of the cable segment to a modular wall outlet that is connected to the wiring closet. (See the section ""Network Wiring Connections" on page 46.") Otherwise, attach the other end to an available port on the switch. Make sure each twisted pair cable does not exceed 100 meters (328 ft) in length. 3. As each connection is made, the Link LED (on the switch) corresponding to each port will light green or amber to indicate that the connection is valid. NETWORK WIRING CONNECTIONS Today, the punch-down block is an integral part of many of the newer equipment racks. It is actually part of the patch panel.

Instructions for making connections in the wiring closet with this type of equipment follows. 1. Attach one end of a patch cable to an available port on the switch, and the other end to the patch panel. 2. If not already in place, attach one end of a cable segment to the back of the patch panel where the punch-down block is located, and the other end to a modular wall outlet. 3. Label the cables to simplify future troubleshooting. See "Cable Labeling and Connection Records" on page 51. 46 CHAPTER 4 | Making Network Connections Fiber Optic SFP Devices Figure 20: Network Wiring Connections Switch Equipment Rack (side view) Punch-Down Block Patch Panel Wall FIBER OPTIC SFP DEVICES An optional SFP transceiver (1000BASE-SX, 1000BASE-LX, 1000BASE-LH, or 100BASE-FX) can be used for a backbone connection between switches, or for connecting to a high-speed server. Each single-mode fiber port requires 9/125 micron single-mode fiber optic cable with an LC connector at both ends.

Each multimode fiber optic port requires 50/ 125 or 62.5/125 micron multimode fiber optic cabling with an LC connector at both ends. 47 CHAPTER 4 | Making Network Connections Fiber Optic SFP Devices WARNING: This switch uses lasers to transmit signals over fiber optic cable. The lasers are compliant with the requirements of a Class 1 Laser Product and are inherently eye safe in normal operation. However, you should never look directly at a transmit port when it is powered on.

WARNING: When selecting a fiber SFP device, considering safety, please make sure that it can function at a temperature that is not less than the recommended maximum operational temperature of the product. You must also use an approved Laser Class 1 SFP transceiver. 1. Remove and keep the LC port's rubber plug. When not connected to a fiber cable, the rubber plug should be replaced to protect the optics.

2. Check that the fiber terminators are clean. You can clean the cable plugs by wiping them gently with a clean tissue or cotton ball moistened with a little ethanol. Dirty fiber terminators on fiber optic cables will impair the quality of the light transmitted through the cable and lead to degraded performance on the port. 3. Connect one end of the cable to the LC port on the switch and the other end to the LC port on the other device. Since LC connectors are keyed, the cable can be attached in only one orientation. Figure 21: Making Fiber Port Connections 4. As a connection is made, check the Link LED on the switch corresponding to the port to be sure that the connection is valid. The 1000BASE-SX/LX/LH fiber optic ports operate at 1 Gbps full duplex.

The 100BASE-FX fiber optic ports operate at 100 Mbps full duplex. @@@@@@@@The Category 5e and 6 specifications include test parameters that are only recommendations for Category 5. Therefore, the first step in preparing existing Category 5 cabling for running 1000BASE-T is a simple test of the cable installation to be sure that it complies with the IEEE 802.3-2005 standards. 1000 MBPS GIGABIT ETHERNET COLLISION DOMAIN Table 4: Maximum 1000BASE-T Gigabit Ethernet Cable Length Cable Type Category 5, 5e, or 6 100-ohm UTP or STP Maximum Cable Length 100 m (328 ft) Connector RJ-45 Table 5: Maximum 1000BASE-SX Gigabit Ethernet Cable Lengths Fiber Size 62.5/125 micron multimode fiber Fiber Bandwidth 160 MHz/km 200 MHz/km Maximum Cable Length 2-220 m (7-722 ft) 2-275 m (7-902 ft) Connector LC LC 49 CHAPTER 4 | Making Network Connections Connectivity Rules Table 5: Maximum 1000BASE-SX Gigabit Ethernet Cable Lengths (Continued) Fiber Size 50/125 micron multimode fiber Fiber Bandwidth 400 MHz/km 500 MHz/km Maximum Cable Length 2-500 m (7-1641 ft) 2-550 m (7-1805 ft) Connector LC LC Table 6: Maximum 1000BASE-LX Gigabit Ethernet Cable Length Fiber Size 9/125 micron singlemode fiber Fiber Bandwidth N/A Maximum Cable Length Connector 2 m - 10 km (7 ft - 6.4 miles) LC Table 7: Maximum 1000BASE-LH Gigabit Ethernet Cable Length Fiber Size 9/125 micron singlemode fiber Fiber Bandwidth N/A Maximum Cable Length 2 m - 70 km (7 ft - 43.5 miles) Connector LC 100 MBPS FAST ETHERNET COLLISION DOMAIN Table 8: Maximum 100BASE-FX Cable Length Type 100BASE-FX Cable Type 9/125 micron single-mode fiber 62.

5/125 or 50/125 multimode fiber Max. Cable Length 2 m - 20 km (7ft - 12.
43 miles) up to 2 km (1.24 miles) Connector LC LC Table 9: Maximum Fast Ethernet Cable Lengths Type 100BASE-TX Cable Type Category 5 or better 100-ohm UTP or STP Max. Cable Length 100 m (328 ft) Connector RJ-45 50 CHAPTER 4 | Making Network Connections Cable Labeling and Connection Records 10 MBPS ETHERNET COLLISION DOMAIN Table 10: Maximum Ethernet Cable Length Type 10BASE-T Cable Type Category 3 or better 100-ohm UTP Max. @@@@@@@@For each piece of equipment, identify the devices to which it is connected. Note the length of each cable and the maximum cable length supported by the switch ports.
For ease of understanding, use a location-based key when assigning prefixes to your cable labeling. Use sequential numbers for cables that originate from the same equipment. Differentiate between racks by naming accordingly. Label each separate piece of equipment. Display a copy of your equipment map, including keys to all abbreviations at each equipment rack.
51 A TROUBLESHOOTING DIAGNOSING LED INDICATORS Table 11: LED Indicators LED Status Power LED is Off Action Check connections between the switch, the power cord, and the wall outlet. Contact your dealer for assistance. Power cycle the switch to try and clear the condition. If the condition does not clear, contact your dealer for assistance. Verify that the switch and attached device are powered on. Be sure the cable is plugged into both the switch and corresponding device. If the switch is installed in a rack, check the connections to the punch-down block and patch panel. Verify that the proper cable type is used and its length does not exceed specified limits. Check the adapter on the attached device and cable connections for possible defects. Replace the defective adapter or cable if necessary.

Diag LED is Flashing Amber Link LED is Off POWER AND COOLING PROBLEMS If the power indicator does not turn on when the power cord is plugged in, you may have a problem with the power outlet, power cord, or internal power supply. However, if the unit powers off after running for a while, check for loose power connections, power losses, or surges at the power outlet. If you still cannot isolate the problem, the internal power supply may be defective. 52 Installation APPENDIX A | Troubleshooting INSTALLATION Verify that all system components have been properly installed. If one or more components appear to be malfunctioning (such as the power cord or network cabling), test them in an alternate environment where you are sure that all the other components are functioning properly. IN-BAND ACCESS You can access the management agent in the switch from anywhere within the attached network using a web browser, or other network management software tools. However, you must first configure the switch with a valid IP address, subnet mask, and default gateway. If you have trouble establishing a link to the management agent, check to see if you have a valid network connection. Then verify that you entered the correct IP address. Also, be sure the port which you are connecting to the switch has not been disabled.
*If it has not been disabled, then check the network cabling that runs between your remote location and the switch. CAUTION: The management agent can accept up to four simultaneous Telnet sessions. If the maximum number of sessions already exists, an additional Telnet connection will not be able to log into the system. 53 B SPECIFICATIONS PHYSICAL CHARACTERISTICS PORTS 8 10/100/1000BASE-T, with auto-negotiation 2 10/100/1000BASE-SFP transceiver slots NETWORK INTERFACE Ports 1-8: RJ-45 connector, auto MDI/MDI-X 10BASE-T: RJ-45 (100-ohm, UTP cable; Category 3 or better) 100BASE-TX: RJ-45 (100-ohm, UTP cable; Category 5 or better) 1000BASE-T: RJ-45 (100-ohm, UTP cable; Category 5, 5e or better) *Maximum Cable Length - 100 m (328 ft) Ports 9-10: SFP transceiver slots 100BASE-FX, 1000BASE-SX,1000BASE-LX, 1000BASE-LH, 1000BASE-T *The maximum length for fiber optic cable operating at Gigabit speed will depend on the fiber type as listed under: ""1000 Mbps Gigabit Ethernet Collision Domain" on page 49." BUFFER ARCHITECTURE 4 Mbit AGGREGATE BANDWIDTH 20 Gbps SWITCHING DATABASE 8K MAC address entries 54 APPENDIX B | Specifications Physical Characteristics LEDS System: Power, Diag, PoE Port: Status (link, speed, activity) WEIGHT 2.*
2 kg (4.85 lbs) SIZE (W x D x H) 33 x 20.4 x 4.3 cm (12.99 x 8.
03 x 1.69 in.) TEMPERATURE Operating: 0°C to 50°C (32°F to 122°F) Storage: -40°C to 70°C (-40°F to 158°F) HUMIDITY Operating: 10% to 90% (non-condensing) AC INPUT AC 100-240V, 50-60Hz, 1.7A POWER SUPPLY Internal, auto-ranging SMPS: AC 100-240V, 47-63 Hz POWER CONSUMPTION 100 Watts (Maximum power consumption from AC inlet) MAXIMUM CURRENT 1.7A 55 APPENDIX B | Specifications Switch Features SWITCH FEATURES FORWARDING MODE Store-and-forward THROUGHPUT Wire speed FLOW CONTROL Full Duplex: IEEE 802.3x Half Duplex: Back pressure MANAGEMENT FEATURES IN-BAND MANAGEMENT Web, or SNMP manager STANDARDS IEEE 802.3-2005 Ethernet, Fast Ethernet, Gigabit Ethernet Full-duplex flow control Link Aggregation Control Protocol IEEE802.3at Power-over-Ethernet IEEE 802.1Q IEEE 802.1P ISO/IEC 8802-3 56 Compliances APPENDIX B | Specifications COMPLIANCES CE MARK EMISSIONS FCC Class A IEC 55022 (CISPR 22) Class A IEC 61000-3-2/3 VCCI Class A IMMUNITY EN 61000-4-2/3/4/5/6/8/11 SAFETY CSA (CSA 22.

2 No 60950-1 & UL60950-1) CB (IEC 60950-1/ EN60950-1) 57 SMC NETWORKS TECHNICAL SUPPORT From Singapore in English and Tel: +65-63387667, Ext. 4 From the United Arab Emirates in English (Sun.-Thu. 9AM to 6 PM) Tel: +971 800 222866/+971 4 3564810 From U.S.A. and Canada (24 hours a day, 7 days a week) Tel: +1 (800) SMC-4-YOU/+1 (949) 679-8000 Fax: +1 (949) 679-1481 (Mon.-Fri. 9AM to 5 PM) su www.smc.com www.smc-asis.com www.smcnetworks.co.
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